

TYPE APPROVAL CERTIFICATE

This is to certify:**That the High Voltage Cable**with type designation(s)
MEPRXCX & MEPRXCX FLEXISHIP 6/10 + 8,7/15 + 12/20 kV

Issued to

Nexans Deutschland GmbH
Mönchengladbach Nordrhein-Westfalen, Germanyis found to comply with
DNV GL rules for classification – Ships, offshore units, and high speed and light craft**Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.****Rated voltage (kV) 6/10 + 8,7/15 + 12/20**
Temp. class (°C) 90Issued at **Hamburg** on **2018-03-20**for **DNV GL**This Certificate is valid until **2023-03-19**.DNV GL local station: **Essen**Approval Engineer: **Carsten Hunsalz**

Arne Schaarmann
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Job Id: **262.1-006567-17**
 Certificate No: **TAE00001D2**
 Revision No: **1**

Product description

Type: MEPRXCX & MEPRXCX FLEXISHIP 6/10 kV + 8,7/15 kV + 12/20 kV
 Conductors: Bare or tinned copper – stranded class 2 or class 5
 Cond. screening: Non-metallic extruded semi-conducting layer
 Core insulation: EPR
 Insul. screening: Non-metallic extruded semi-conducting layer
 Metallic seen: Bare or tinned copper, as a braid or concentric wires
 Inner covering: Halogen-free extruded rubber compound (optional)
 Metal covering: Bare or tinned copper braid
 Outer sheath: SHF1

Number of cores x conductor cross-section	Overall diameter min	Overall diameter max
mm ²	mm	mm
MEPRXCX 6 /10kV		
1 x 25	22,0	24,5
1 x 35	23,0	26,0
1 x 50	24,0	26,5
1 x 70	26,0	29,0
1 x 95	27,5	31,0
1 x 120	29,5	33,0
1 x 150	30,5	34,0
1 x 185	33,0	36,5
1 x 240	35,5	39,5
1 x 300	38,0	42,0
3 x 25	43,0	47,5
3 x 35	45,5	50,5
3 x 50	47,5	52,5
3 x 70	51,5	56,5

Number of cores x conductor cross-section	Overall diameter min	Overall diameter max
mm ²	mm	mm
3 x 95	55,5	61,0
3 x 120	60,0	64,0
3 x 150	66,0	70,0
MEPRXCX FLEXISHIP 6/10kV		
1 x 25	22,0	25,0
1 x 35	24,0	26,5
1 x 50	25,0	28,0
1 x 70	27,5	31,0
1 x 95	30,0	33,5
1 x 120	32,0	35,5
1 x 150	34,0	38,0
1 x 185	35,5	39,5
1 x 240	39,0	43,0
1 x 300	41,5	46,0

Number of cores x conductor cross-section	Overall diameter min	Overall diameter max
mm ²	mm	mm
3 x 25	44,0	49,0
3 x 35	47,0	52,0
3 x 50	50,5	55,5
3 x 70	55,5	61,0
3 x 95	60,0	66,0
3 x 120	64,0	70,0
3 x 150	68,0	74,5
3 x 240	78,0	83,0

Number of cores x conductor cross-section	Overall diameter min	Overall diameter max
mm ²	mm	mm
MEPRXCX 8,7/15kV		
1 x 25	25,0	28,0
1 x 35	27,0	30,5
1 x 50	28,0	31,5
1 x 70	31,0	34,5
1 x 95	33,0	36,5
1 x 120	34,5	38,5
1 x 150	36,5	40,5
1 x 185	38,5	43,0
1 x 240	41,5	46,0
1 x 300	44,5	49,0
3 x 25	50,5	55,5
3 x 35	52,5	58,0
3 x 50	56,5	62,0

Number of cores x conductor cross-section	Overall diameter min	Overall diameter max
mm ²	mm	mm
3 x 70	62,0	68,5
3 x 95	65,5	71,5
3 x 120	70,0	76,5
3 x 150	74,0	81,0
MEPRXCX FLEXISHIP 8,7/15kV		
1 x 25	25,0	28,8
1 x 35	27,0	30,5
1 x 50	28,0	31,5
1 x 70	30,0	33,5
1 x 95	33,0	36,5
1 x 120	34,5	38,5
1 x 150	35,5	39,5

Number of cores x conductor cross-section	Overall diameter min	Overall diameter max
mm ²	mm	mm
1 x 185	38,5	43,0
1 x 240	41,5	46,0
1 x 300	44,5	49,0
3 x 25	50,5	55,5
3 x 35	52,5	58,0
3 x 50	56,5	62,0
3 x 70	62,0	68,5
3 x 95	65,5	71,5
3 x 120	70,0	76,5
3 x 150	74,0	81,0

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MEPRXCX & MEPRXCX FLEXISHIP 12/20 kV

Number of cores x conductor cross-section	Overall diameter min	Overall diameter max	Number of cores x conductor cross-section	Overall diameter min	Overall diameter max
mm ²	mm	mm	mm ²	mm	mm
1 x 25	27,5	31,0	3 x 25	55,0	60,5
1 x 35	29,0	32,5	3 x 35	57,5	63,0
1 x 50	30,0	33,5	3 x 50	61,0	66,5
1 x 70	33,0	37,0	3 x 70	66,5	73,0
1 x 95	35,0	38,5	3 x 95	70,0	76,5
1 x 120	36,5	40,5	3 x 120	74,0	81,0
1 x 150	38,5	42,5	3 x 150	78,0	85,5
1 x 185	39	43,5	3 x 185	81,0	89,0
1 x 240	42	46,5	3 x 240	86,5	94,5
1 x 300	45,0	49,5	3 x 300	91,5	100,5

Application/Limitation

The requirements of SOLAS Amendments Chapter II-1, Part D, Reg. 45, 5.2 (provision to be taken to limit Fire Propagation along Bunches of Cables or Wires) are fulfilled without any additional measures.

High voltage power.
 Flame retardant in bunch Cat. A. Halogen free. Low smoke.

Type Approval documentation

Data sheets: [Dimension of MEPRXCX + MEPRXCX FLEXISHIP 8,7/15 kV MG-S-021 dated 2018-01-16](#)
[Dimension of MEPRXCX + MEPRXCX FLEXISHIP 12/20 kV MG-S-029 dated 2016-06-16](#)
[Dimension of MEPRXCX + MEPRXCX FLEXISHIP 6/10 kV MG-S-020 dated 2018-01-16](#)

Test reports

Tests carried out

Standard	Release	General description	Limitation
IEC 60092-350	2014-08	General construction and test methods of power, control and instrumentation cables for shipboard and offshore applications	
IEC 60092-354	2014-08	Electrical installations in ships - Part 354: Single- and three-core power cables with extruded solid insulation for rated voltages 6 kV (Um = 7,2 kV) up to 30 kV (Um = 36 kV)	
IEC 60092-360	2014-04	Electrical installations in ships - Part 360: Insulating and sheathing materials for shipboard and offshore units, power, control, instrumentation and telecommunication cables.	
IEC 60332-3-22	2009-02	Tests on electric and optical fibre cables under fire conditions – Part 3-22: Test for vertical flame spread of vertically-mounted bunched wires or cables – Category A	Charred portion of sample does not exceed 2,5m above bottom edge of burner.

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Standard	Release	General description	Limitation
IEC 60754-1	2011-11	Test on gases evolved during combustion of materials from cables - Part 1: Determination of the halogen acid gas content	Low Halogen: <0,5% Halogen
IEC 60754-2	2011-11	Test on gases evolved during combustion of materials from cables - Part 2: Determination of acidity (by pH measurement) and conductivity	Halogen free: pH > 4,3 Conductivity < 10µS/mm
IEC 61034-1/2	2013-07 2013-09	Measurement of smoke density of cables burning under defined conditions – Test apparatus, procedure and requirements	Low smoke Light transmittance >60%

Marking of product

Example:

NEXANS MEPRXCX or MEPRXCX FLEXISHIP – size – 8,7/15 kV – 90C – IEC 60092-354 – IEC 60332-3-22 – CE(Symbol) Order-No.

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE